Analytical Data Package Prepared For

Fluor Hanford

Radiochemical Analysis By

STL Richland

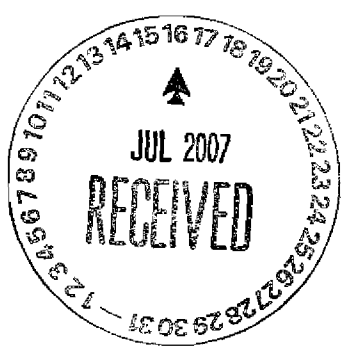
2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: STLRL

Data Package Contains _____ Pages

Report No.: 35904

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W05195	R07-010	B1P0K4	J7F280343-1	J12NF1AA	9J12NF10	7180247
		B1P0K5	J7F280343-2	J12NP1AA	9J12NP10	7180247
		B1P0K6	J7F280343-3	J12N01AA	9J12N010	7180247
		B1P0K9	J7F280343-4	J12N31AA	9J12N310	7180247
		B1P0L0	J7F280343-5	J12N71AA	9J12N710	7180247
		B1P0L1	J7F280343-6	J12PA1AA	9J12PA10	7180247
		B1P0L4	J7F280343-7	J12PE1AA	9J12PE10	7180247
		B1P0L5	J7F280343-8	J12PH1AA	9J12PH10	7180247



SEVERN TRENT STL

STL Richland
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Certificate of Analysis

Fluor Hanford
P.O. Box 1000, T6-03
Richland, WA 99352

July 13, 2007

Attention: John Trechter

SAF Number	:	R07-010
Date SDG Closed	:	June 28, 2007
Number of Samples	:	Eight (8)
Sample Type	:	Soil
SDG Number	:	W05195
Data Deliverable	:	15/15 Day

CASE NARRATIVE

I. Introduction

On June 28, 2007 eight samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned to lot J7F280343 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

FH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1P0K4	J12NF	SOIL	6/28/07
B1P0K5	J12NP	SOIL	6/28/07
B1P0K6	J12N0	SOIL	6/28/07
B1P0K9	J12N3	SOIL	6/28/07
B1P0L0	J12N7	SOIL	6/28/07
B1P0L1	J12PA	SOIL	6/28/07
B1P0L4	J12PE	SOIL	6/28/07
B1P0L5	J12PH	SOIL	6/28/07

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

July 13, 2007

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Liquid Scintillation Counting
Nickel 63 by LCS

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Liquid Scintillation Counting
Nickel 63 by LCS:
The LCS, batch blank, samples and sample duplicate (B1P0K4) were all within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Sherryl A. Adam
for Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) u_c *- Combined Uncertainty.*	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, u_c *the combined uncertainty*. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 13-Jul-07

STL Richland STLRL

Ordered by Client Sample ID, Batch No.

Report No. : 35904 **SDG No:** W05195

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RPD
B1P0K4	J12NF1AA	NI-63	2.57E-01 +- 7.84E-01	U	pCi/g	91%	1.10E+00	
B1P0K4 DUP	J12NF1AC	NI-63	1.39E-01 +- 7.25E-01	U	pCi/g	99%	1.03E+00	59.6
B1P0K5	J12NP1AA	NI-63	8.55E-01 +- 9.08E-01	U	pCi/g	90%	1.22E+00	
B1P0K6	J12N01AA	NI-63	1.38E+00 +- 8.42E-01		pCi/g	90%	1.09E+00	
B1P0K9	J12N31AA	NI-63	8.23E-01 +- 1.14E+00	U	pCi/g	80%	1.56E+00	
B1P0L0	J12N71AA	NI-63	8.05E-01 +- 1.06E+00	U	pCi/g	77%	1.44E+00	
B1P0L1	J12PA1AA	NI-63	2.87E-01 +- 7.19E-01	U	pCi/g	98%	1.02E+00	
B1P0L4	J12PE1AA	NI-63	-6.84E-02 +- 7.03E-01	U	pCi/g	97%	1.01E+00	
B1P0L5	J12PH1AA	NI-63	1.55E-01 +- 7.73E-01	U	pCi/g	97%	1.11E+00	

Number of Results: 9

QC Results Summary

STL Richland STLRL

Ordered by QC Type, Batch No.

Date: 13-Jul-07

Report No. : 35904

SDG No.: W05195

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC/MDA
BLANK QC	J13RT1AA	NI-63	1.73E-02 +- 5.04E-01	U	pCi/g	95%			7.19E-01
LCS	J13RT1AC	NI-63	5.96E+01 +- 4.46E+00		pCi/g	88%	79%	-0.2	7.77E-01

Number of Results: 2

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rptSTLRchQcSum V5.1.3 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

STL RICHLAND

FORM I

SAMPLE RESULTS

Date: 13-Jul-07

Lab Name: STL Richland **SDG:** W05195 **Collection Date:** 6/26/2007 1:05:00 PM

Lot-Sample No.: J7F280343-1 **Report No. :** 35904 **Received Date:** 6/28/2007 3:00:00 PM

Client Sample ID: B1P0K4 **COC No. :** R07-010-006 **Matrix:** SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	Work Order: J12NF1AA			Report DB ID: 9J12NF10								
NI-63	***2.57E-01***	U	4.6E-01	7.8E-01	1.10E+00	pCi/g	91%	*0.23*	7/12/07 12:30 a	66.9	1.36122	NI63_LSC
						5.34E-01	3.00E+01	*0.66*		G	G	LSC3

Number of Results: 1

Comments:

STL Richland
rptSTLRchSample
V5.1.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 13-Jul-07

Lab Name: STL Richland | **SDG:** W05195 | **Collection Date:** 6/26/2007 1:16:00 PM

Lot-Sample No.: J7F280343-2 | **Report No. :** 35904 | **Received Date:** 6/28/2007 3:00:00 PM

Client Sample ID: B1P0K5 | **COC No. :** R07-010-006 | **Matrix:** SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	**Work Order:** J12NP1AA			**Report DB ID:** 9J12NP10								
Ni-63	***8.55E-01***	U	5.3E-01	9.1E-01	1.22E+00	pCi/g	90%	*0.7*	7/12/07 03:55 a	60.49	1.24282	NI63_LSC
						5.94E-01	3.00E+01	*(1.9)*		G	G	LSC3

Number of Results: 1

Comments:

STL Richland
rptSTLRchSample
V5.1.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 13-Jul-07

Lab Name: STL Richland | **SDG:** W05195 | **Collection Date:** 6/26/2007 1:50:00 PM

Lot-Sample No.: J7F280343-3 | **Report No. :** 35904 | **Received Date:** 6/28/2007 3:00:00 PM

Client Sample ID: B1P0K6 | **COC No. :** R07-010-006 | **Matrix:** SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	**Work Order:** J12N01AA			**Report DB ID:** 9J12N010								
NI-63	***1.38E+00***		4.8E-01	8.4E-01	1.09E+00	pCi/g	90%	*(1.3)*	7/12/07 05:38 a	68.22	1.41164	NI63_LSC
						5.26E-01	3.00E+01	*(3.3)*		G	G	LSC3

Number of Results: 1

Comments:

MDC|MDA,Lc - Detection, Dscision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 13-Jul-07

Lab Name:	STL Richland	**SDG:**	W05195	**Collection Date:**	6/26/2007 10:15:00 AM
Lot-Sample No.:	J7F280343-4	**Report No. :**	35904	**Received Date:**	6/28/2007 3:00:00 PM
Client Sample ID:	B1P0K9	**COC No. :**	R07-010-006	**Matrix:**	SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	Work Order: J12N31AA			Report DB ID: 9J12N310								
Ni-63	***8.23E-01***	U	6.7E-01	1.1E+00	1.56E+00	pCi/g	80%	*0.53*	7/12/07 07:21 a	54.01	1.09909	NI63_LSC
						7.56E-01	3.00E+01	*(1.4)*		G	G	LSC3

Number of Results: 1

Comments:

STL Richland
rptSTLRchSample V5.1.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 13-Jul-07

Lab Name: STL Richland | **SDG:** W05195 | **Collection Date:** 6/26/2007 11:17:00 AM

Lot-Sample No.: J7F280343-5 | **Report No. :** 35904 | **Received Date:** 6/28/2007 3:00:00 PM

Client Sample ID: B1P0L0 | **COC No. :** R07-010-006 | **Matrix:** SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	Work Order: J12N71AA			Report DB ID: 9J12N710								
Ni-63	***8.05E-01***	U	6.2E-01	1.1E+00	1.44E+00	pCi/g	77%	*0.56*	7/12/07 09:04 a	61.91	1.22311	Ni63_LSC
						7.00E-01	3.00E+01	*(1.5)*		G	G	LSC3

Number of Results: 1

Comments:

STL Richland
rptSTLRchSample
V5.1.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 13-Jul-07

Lab Name: STL Richland | **SDG:** W05195 | **Collection Date:** 6/26/2007 12:05:00 PM

Lot-Sample No.: J7F280343-6 | **Report No. :** 35904 | **Received Date:** 6/28/2007 3:00:00 PM

Client Sample ID: B1P0L1 | **COC No. :** R07-010-006 | **Matrix:** SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	Work Order: J12PA1AA			Report DB ID: 9J12PA10								
NI-63	***2.87E-01***	U	4.3E-01	7.2E-01	1.02E+00	pCi/g	98%	*0.28*	7/12/07 10:46 a	67.7	1.38619	NI63_LSC
						4.96E-01	3.00E+01	*0.8*		G	G	LSC3

Number of Results: 1

Comments:

STL Richland
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V5.1.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 13-Jul-07

Lab Name:	STL Richland	**SDG:**	W05195	**Collection Date:**	6/26/2007 9:15:00 AM
Lot-Sample No.:	J7F280343-7	**Report No. :**	35904	**Received Date:**	6/28/2007 3:00:00 PM
Client Sample ID:	B1P0L4	**COC No. :**	R07-010-006	**Matrix:**	SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	**Work Order:** J12PE1AA			**Report DB ID:** 9J12PE10								
Ni-63	***-6.84E-02***	U	4.2E-01	7.0E-01	1.01E+00	pCi/g	97%	*-0.07*	7/12/07 12:29 p	68.4	1.38492	Ni63_LSC
						4.90E-01	3.00E+01	*-0.19*		G	G	LSC3

Number of Results: 1

Comments:

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 13-Jul-07

Lab Name: STL Richland | **SDG:** W05195 | **Collection Date:** 6/26/2007 2:10:00 PM

Lot-Sample No.: J7F280343-8 | **Report No. :** 35904 | **Received Date:** 6/28/2007 3:00:00 PM

Client Sample ID: B1P0L5 | **COC No. :** R07-010-006 | **Matrix:** SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	Work Order: J12PH1AA			Report DB ID: 9J12PH10								
Ni-63	***1.55E-01***	U	4.6E-01	7.7E-01	1.11E+00	pCi/g	97%	*0.14*	7/12/07 02:12 p	64.38	1.29663	NI63_LSC
						5.40E-01	3.00E+01	*0.4*		G	G	LSC3

Number of Results: 1

Comments:

STL Richland
rptSTLRchSample
V5.1.3 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

Date: 13-Jul-07

DUPLICATE RESULTS

Lab Name:	STL Richland	**SDG:**	W05195	**Collection Date:**	6/26/2007 1:05:00 PM
Lot-Sample No.:	J7F280343-1	**Report No. :**	35904	**Received Date:**	6/28/2007 3:00:00 PM
Client Sample ID:	B1P0K4 DUP	**COC No. :**	R07-010-006	**Matrix:**	SOIL SOLID

Parameter	Result, Orig Rst	Qual		Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	**Work Order:** J12NF1AC				**Report DB ID:** J12NF1CR		**Orig Sa DB ID:** 9J12NF10						
NI-63	1.39E-01	U		4.3E-01	7.2E-01	1.03E+00	pCi/g	99%	0.14	7/12/07 02:13 a	66.9	1.34788	NI63_LSC
	2.57E-01	U	RPD	59.6			3.00E+01		0.38		G	G	LSC3

Number of Results: 1

Comments:

RPD - Relative Percent Difference.

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 13-Jul-07

Lab Name: STL Richland SDG: W05195

Lot-Sample No.: J7F290000-247 Report No. : 35904 Matrix: SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	Work Order: J13RT1AA			Report DB ID: J13RT1AB								
Ni-63	1.73E-02	U	3.0E-01	5.0E-01	7.19E-01	pCi/g	95%	0.02	7/12/07 03:55 p		2.0	Ni63_LSC
					3.48E-01	3.00E+01		0.07			G	LSC3

Number of Results: 1

Comments:

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

LCS RESULTS

Date: 13-Jul-07

Lab Name: STL Richland **SDG:** W05195

Lot-Sample No.: J7F290000-247 **Report No. :** 35904 **Matrix:** SOIL

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7180247	Work Order: J13RT1AC			Report DB ID: J13RT1CS									
Ni-63	5.96E+01		1.1E+00	4.5E+00	7.77E-01	pCi/g	88.30%	7.58E+01	2.5E+00	79%	7/12/07 05:37 p	2.0	Ni63_LSC
							Rec Limits:	70.	130.	-0.2		G	LSC3

Number of Results: 1

Comments:

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/13/2007 9:10:55 AM

Lot No., Due Date: J7F280343; 07/13/2007

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 7180247; RNI63 Ni-63 by LSC

SDG, Matrix: W05195; SOIL

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes ✓	No	N/A
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes ✓	No	N/A
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	Yes	No	N/A ✓
5.2 Are all required forms filled out?	Yes ✓	No	N/A
5.3 Was the correct methodology used?	Yes ✓	No	N/A
5.4 Was transcription checked?	Yes ✓	No	N/A
5.5 Were all calculations checked at a minimum frequency?	Yes ✓	No	N/A
5.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

6.0 Comments on any No response:

First Level Review Tracy Thompson **Date** 7/13/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 1180247

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	√		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	√		
3. Are the correct isotopes reported?	√		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	√		
2. Does the blank result meet the Contract criteria?	√		
3. Is the blank result < the Contract Detection Limit?	√		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			√
5. Is the LCS recovery with contract acceptance criteria?	√		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	√		
8. Do the MS/MSD results and yields meet acceptance criteria?			√
9. Do the duplicate sample results and yields meet acceptance criteria?	√		
C. Other 1. Are all Nonconformances included and noted?			√
2. Are all required forms filled out?	√		
3. Was the correct methodology used?	√		
4. Was transcription checked?	√		
5. Were all calculations checked at a minimum frequency?	√		
6. Were units checked?	√		

Comments on any "No" response:

Second Level Review: Erika C. Fredo Date: 7/13/7

STL RICHLAND

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

R07-010-006 PAGE 1 OF 2

COLLECTOR
HOGAN, JG

COMPANY CONTACT
KLAGES, DL

TELEPHONE NO.
373-6312

PROJECT COORDINATOR
TRECHTER, JE

PRICE CODE 8C

DATA TURNAROUND
15 Days / 15 Days

SAMPLING LOCATION
216-N-7

PROJECT DESIGNATION
200-CW-3 Operable Unit Trench Bottoms and Side Walls Analyses

SAF NO.
R07-010

AIR QUALITY

ICE CHEST NO.

FIELD LOGBOOK NO.
HNF-N-507-3

COA
122333ES20

METHOD OF SHIPMENT
GOVERNMENT VEHICLE

JTF380343
W05195
7-13-
Due ~~6-8-07~~
R 6/9/07

SHIPPED TO
Severn Trent Incorporated, Richland

OFFSITE PROPERTY NO.
N/A

BILL OF LADING/AIR BILL NO.
N/A

MATRIX*
OL = OTHER LIQUID
OS = OTHER SOLID
S = SOIL
W = WATER

SPECIAL HANDLING AND/OR STORAGE

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS		PRESERVATION
B1P0K4		S	6-26-07	1305	3 ~~1~~ X60mL G/P	Nickel-63;	Weights gr	None
B1P0K5		S		1316	3 ~~1~~ X60mL G/P	Nickel-63;	J12NF 22, 22, 22	None
B1P0K6		S		1350	3 ~~1~~ X60mL G/P	Nickel-63;	J12NP 20, 23, 30	None
B1P0K9		S		1015	3 ~~1~~ X60mL G/P	Nickel-63;	J12NO 21, 23, 24	None
B1P0L0		S		1117	3 ~~1~~ X60mL G/P	Nickel-63;	J12N3 20, 20, 21	None
B1P0L1		S		1205	3 ~~1~~ X60mL G/P	Nickel-63;	J12N7 21, 21, 21	None
B1P0L4		S		0915	3 ~~1~~ X60mL G/P	Nickel-63;	J12PA 21, 22, 24	None
							J12PE 21, 22, 24	

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
JG HOGAN JG Hogan	062807 1500		062807 1600
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** WSCF is the primary laboratory for all analyses assigned to WSCF on the Field Sampling Requirements section of this SAF.
** WSCF is to report the complete list of analytes for Metals and GEA.
** Reporting format the same as GPP, including QC.
** WSCF will send copies of COC to John Trechter and copy ^CPP Sample Management mailbox.
** Final reports are to be uploaded into HEIS.

LABORATORY SECTION	**RECEIVED BY**		**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**		**DISPOSED BY**	**DATE/TIME**

STL RICHLAND

Fluor Hanford Inc. | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **R07-010-006** | **PAGE 2 OF 2**

COLLECTOR	**COMPANY CONTACT**	**TELEPHONE NO.**	**PROJECT COORDINATOR**	**PRICE CODE** 8C	**DATA TURNAROUND**
HOGAN, JG	KLAGES, DL	373-6312	TRECHTER, JE		
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	**15 Days / 15 Days**
216-N-7	200-CW-3 Operable Unit Trench Bottoms and Side Walls Analyses		R07-010		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
	HNF-N-507-3	122333E520	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
Severn Trent Incorporated, Richland	N/A		N/A		

JTF280343
W05195 7-13-07
Due ~~08-08-07~~
R3 6/29/07

MATRIX*
OL = OTHER LIQUID
OS = OTHER SOLID
S = SOIL
W = WATER

SPECIAL HANDLING AND/OR STORAGE

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1P0L5		S	6-26-07	1410	3 4X60mL G/P	Nickel-63; J/2PH	None

WEIGHTS gr
20, 21, 23

CHAIN OF POSSESSION | **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
JG HOGAN JG Hogan	062807 1500		062807 1500
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** WSCF is the primary laboratory for all analyses assigned to WSCF on the Field Sampling Requirements section of this SAF.
** WSCF is to report the complete list of analytes for Metals and GEA.
** Reporting format the same as GPP, including QC.
** WSCF will send copies of COC to John Trechter and copy ^CPP Sample Management mailbox.
** Final reports are to be uploaded into HEIS.

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**	
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**	

N
N1

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 062807 1500

Client: FLH SDG #: W05795 NA [ ] SAF #: R07-010 NA [ ]

Work Order Number: SJ7F280345 Chain of Custody # R07-010-006

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA ~~[ ]~~ Yes [ ] No [ ]
2. Custody Seals dated and signed? NA ~~[ ]~~ Yes [ ] No [ ]
3. Chain of Custody record present? Yes ~~[ ]~~ No [ ]
4. Cooler temperature: _____ NA ~~[ ]~~ 5. Vermiculite/packing materials is NA ~~[ ]~~ Wet [ ] Dry [ ]
6. Number of samples in shipping container: 8
7. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
8. Samples have:
   - _____ tape
   - ✓ custody seals
   - _____ hazard labels
   - ✓ appropriate samples labels
9. Samples are:
   - ✓ in good condition
   - _____ broken
   - _____ leaking
   - _____ have air bubbles

   (Only for samples requiring head space)
10. Sample pH taken? SOIL NA ~~[ ]~~ pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes ~~[ ]~~ No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No ~~[ ]~~
13. Description of anomalies (include sample numbers): _____

Sample Custodian: RJR Date: 062807

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date 062807

LS-023, 9/03, Rev. 5

STL RICHLAND

7/9/2007 6:52:05 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

AF Ni-63 PrpRC5013/5019, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 07/13/2007

Sep1 DT/Tm Tech:

Batch: 7180247 **SOIL** **pCi/g**

PM, Quote: SA , 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: WoodT

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 **J12NF-1-AA** J7F280343-1-SAMP 06/26/2007 13:05	66.90g	100.26g	2.04g,in AmtRec: 3XJAR60MLG	1.3612g #Containers: 3	NITA2425 05/31/07	100	Scr:	Alpha:	Beta:	
2 **J12NF-1-AC-X** J7F280343-1-DUP 06/26/2007 13:05	66.90g	100.26g	2.02g,in AmtRec: 3XJAR60MLG	1.3479g #Containers: 3	NITA2426 05/31/07		Scr:	Alpha:	Beta:	
3 **J12NP-1-AA** J7F280343-2-SAMP 06/26/2007 13:16	60.49g	100.75g	2.07g,in AmtRec: 3XJAR60MLG	1.2428g #Containers: 3	NITA2427 05/31/07		Scr:	Alpha:	Beta:	
4 **J12N0-1-AA** J7F280343-3-SAMP 06/26/2007 13:50	68.22g	100.52g	2.08g,in AmtRec: 3XJAR60MLG	1.4116g #Containers: 3	NITA2428 05/31/07		Scr:	Alpha:	Beta:	
5 **J12N3-1-AA** J7F280343-4-SAMP 06/26/2007 10:15	54.01g	101.23g	2.06g,in AmtRec: 3XJAR60MLG	1.0991g #Containers: 3	NITA2429 05/31/07		Scr:	Alpha:	Beta:	
6 **J12N7-1-AA** J7F280343-5-SAMP 06/26/2007 11:17	61.91g	101.74g	2.01g,in AmtRec: 3XJAR60MLG	1.2231g #Containers: 3	NITA2430 05/31/07		Scr:	Alpha:	Beta:	
7 **J12PA-1-AA** J7F280343-6-SAMP 06/26/2007 12:05	67.70g	100.12g	2.05g,in AmtRec: 3XJAR60MLG	1.3862g #Containers: 3	NITA2431 05/31/07		Scr:	Alpha:	Beta:	

STL RICHLAND

7/9/2007 6:52:13 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

AF NI-63 PrpRC5013/5019, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 07/13/2007

Sep1 DT/Tm Tech:

Batch: 7180247 SOIL . pCi/g

PM, Quote: SA , 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: WoodT

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 J12PE-1-AA J7F280343-7-SAMP	68.40g	100.26g	2.03g,in	1.3849g	NITA2432 05/31/07	100				
06/26/2007 09:15		AmtRec: 3XJAR60MLG	#Containers: 3			Scr:	Alpha:		Beta:	
9 J12PH-1-AA J7F280343-8-SAMP	64.38g	101.29g	2.04g,in	1.2966g	NITA2433 05/31/07					
06/26/2007 14:10		AmtRec: 3XJAR60MLG	#Containers: 3			Scr:	Alpha:		Beta:	
10 J13RT-1-AA-B J7F290000-247-BLK			2.00g,in	2.00g	NITA2443 06/19/07					
06/26/2007 13:05		AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:	
11 J13RT-1-AC-C J7F290000-247-LCS			2.00g,in	2.00g	NISA0767 06/19/07					
06/26/2007 13:05		AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:	
12 J13RT-1-AD-BN J7F290000-247-IBLK										
06/26/2007 13:05		AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:	

Comments:

All Clients for Batch:
108302, Fluor Hanford Inc Flour Hanford Inc , SA , 50639

J12NF1AA-SAMP Constituent List:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35

25

7/9/2007 6:52:15 AM

Sample Preparation/Analysis

AF Ni-63 PrpRC5013/5019, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 07/13/2007

Sep1 DT/Tm Tech:

Batch: 7180247 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Aml/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

J13RT1AA-BLK:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:
J13RT1AC-LCS:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35
J13RT1AD-IBLK:
Ni-63 RDL:30 pCi/g LCL: UCL: RPD:
J12NF1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J13RT1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J13RT1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
J13RT1AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

7/13/2007 9:10:01 AM

ICOC Fraction Transfer/Status Report

ByDate: 7/13/2006, 7/18/2007, Batch: '7180247', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus		Accepting		Comments
	7180247						
AC			CalcC	WoodT	6/29/2007 10:04:02		
SC				wagarr	IsBatched	6/29/2007 9:23:31 AM	ICOC_RADCALC v4.8.26
SC				WoodT	InPrep	6/29/2007 10:04:02 AM	RICH-RC-5013 REVISION 7
SC				WoodT	Prep1C	7/8/2007 7:51:20 AM	RICH-RC-5013 REVISION 7
SC				WoodT	InPrep2	7/8/2007 7:51:34 AM	RICH-RC-5019 REVISION 6
SC				WoodT	Prep2C	7/9/2007 6:38:49 AM	RICH-RC-5019 REVISION 6
SC				FABREM	InSep1	7/9/2007 12:13:21 PM	RICH-RC-5069 REVISION 6
SC				FABREM	Sep1C	7/11/2007 3:59:42 PM	RICH-RC-5069 REVISION 6
SC				DAWKINSO	InCnt1	7/11/2007 4:21:51 PM	RICH-RD-0001 REVISION 4
SC				BlackCL	CalcC	7/13/2007 8:28:59 AM	RICH-RD-0001 REVISION 4
AC				WoodT	6/29/2007 10:05:17		
AC				WoodT	7/8/2007 7:51:20 AM		
AC				WoodT	7/8/2007 7:51:34 AM		
AC				WoodT	7/9/2007 6:38:49 AM		
AC				FABREM	7/9/2007 12:13:21 PM		
AC				FABREM	7/11/2007 3:59:42 PM		
AC				DAWKINSO	7/11/2007 4:21:51 PM		
AC				BlackCL	7/13/2007 8:28:59		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 9

ICOCFractions v4.8.27